ADVANCES IN MATHEMATICS 57, 316–317 (1985)

Book Reviews

A. A. BOROVKOV, *Stochastic Processes in Queueing Theory*, Springer-Verlag, Berlin/New York, 1976, 280 pp.

A. N. SHIRYAYEV, *Optical Stopping Rules*, Springer-Verlag, Berlin/New York, 1978, 217 pp.

Y. A. ROZANOV, *Innovation Processes*, Wiley (Halsted Press), New York, 1977, 136 pp.

M. A. Y. DEAMPSTER, J. K. LENSTRA, AND A. H. RINNOOY KAN (Eds.), *Deterministic and Stochastic Scheduling*, Reidel, Dordrecht, 1982, 419 pp.

R. B. COOPER, *Introduction to Queueing Theory* (2nd ed.), North-Holland, Amsterdam, 1981, 347 pp.

P. BREMAUD, *Point Processes and Queues*, Springer-Verlag, Berlin/New York, 1981, 354 pp.

G. P. KLIMOW, *Bedienungsprozesse*, Birkhaüser, Basel, 1979, 244 pp.

J. W. COHEN, *The Single-Service Queue* (2nd ed.), North-Holland, Amsterdam, 1982, 694 pp.

D. L. IGLEHART AND G. S. SHEDLER, *Regenerative Simulation in Response Times in Networks of Queues*, Springer-Verlag, Berlin/New York, 1980, 204 pp.

A. GHOSAL, *Some Aspects of Queueing and Storage Systems*, Springer-Verlag, Berlin/New York, 1970, 94 pp.

A. A. BOROVKOV, *Asymptotic Methods in Queueing Theory*, Wiley, New York, 1984, 292 pp.

J. P. C. BLANC, *Application of the Theory of Boundary Value Problems in the Analysis of a Queueing Model with Paired Services*, Mathematisch Centrum, 1982, 244 pp.

E. VAN DOORN, *Stochastic Monotonicity and Queueing Applications of Birth–Death Processes*, Springer-Verlag, Berlin/New York, 1980, 119 pp.

The books listed above are only a small sampling of the literature in queueing theory, a field where treatises and monographs appear with the regularity of a Poisson process of high intensity. One may wonder what motivates such prolific writing, especially as the term "queueing theory" does not suggest the depth by which we are awed when we read about secondary obstructions and higher reciprocity laws. A malicious observer might be tempted to infer that it is easy to write a book in queueing theory, whatever it is. When the monograph is written by a Russian, as several are every year, one may discuss the phenomenon by appealing to Russia's great tradition in probability. But when even a Frenchman like Bremaud writes on the subject, one is forced to conclude that the field is enjoying a fashion of sorts. This is in fact the case. Queueing theory is that rarest of branches of mathematics: it uses (and even helps develop as it did with Hille) high-grade functional analysis, the theory of semigroups of operators, and some occasional spectral theory, it involves the basic concepts of stochastic processes without getting enmeshed in dire measurability meshes, it has a plethora of computable yet useful examples which bring into play all the fancy special functions, and it actually relates to practical reality better than anyone would expect in view of the high-class machinery it uses. The Russians, Borvkov, Rozanov, and Klimow, for example, discovered

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